SVETLANA TECHNICAL DATA
3CPX800A7
High-Mu Power Triode



The Svetlana™ 3CPX800A7 is a high performance ceramic/metal high-mu power triode designed for use in communications and industrial service. The principal use is for pulsed RF amplifier, pulse modulator, or regulator service. When operated as a pulse modulator, the Svetlana 3CPX800A7 will hold off a maximum plate voltage of 4500 volts. Maximum plate current is 8 amps at a pulse duration of 100 microseconds.

The Svetlana 3CPX800A7 is a direct replacement for the model 3CPX800A7 manufactured in the United States.

Characteristics

Electrical

Cathode:	*Oxide-coated unipotential*	
Heater Voltage (AC or DC)	*13.5 ± 0.6*	*V*
Heater Current @ 13.5V	*1.5*	*A*
Minimum warm-up time	*3*	*min.*
Amplification factor (average)	*200*	
Maximum Frequency for Full Ratings	*500*	*MHz*
Interelectrode capacitances, with grid grounded:		
Input	*25.5*	*pF*
Output	*6.1*	*pF*
Plate-Cathode	*0.04*	*pF*

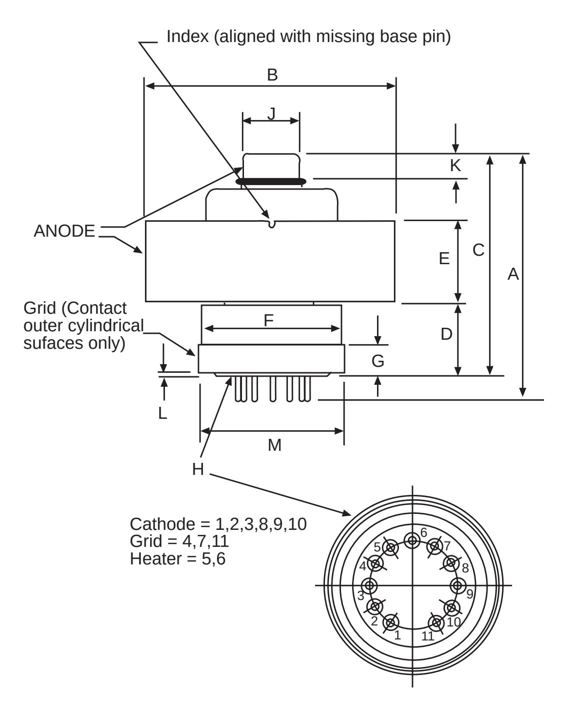
Mechanical

Cooling	*Forced air*
Base	*large 11 pin wafer (EIA E11-81)*
Socket	*11 pin E.F. Johnson #124-311-100*
Anode Connector	*Svetlana AC-1*
Operating position-	*any*
Maximum dimensions:	
Diameter	*64 mm (2.52 in.)*
Length	*67 mm (2.63 in)*
Maximum operating temperature	*250° C*
Net weight (average)	*.341 kg (0.75 lb.)*

Maximum ratings, Pulse Modulator or Switch Tube Service

DC plate voltage	*4500*	*V*
Maximum-signal DC plate current (Duty = 0.005)	*8*	*A*
Plate Dissipation	*800*	*W*
Grid Dissipation	*4.0*	*W*
DC grid current (average)	*60*	*mA*

Svetlana Outline drawing



Dimensional Data

Dim.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	59.44	66.88	2.344	2.633
B	63.119	63.881	2.485	2.515
C	54.66	59.74	2.152	2.352
D	19.964	23.013	.786	.906
E	18.034	20.066	.710	.790
F	—	35.712	—	1.406
G	4.750	—	.187	—
H	BASE: E11-81 (EIA DESIGNATION)			
J	14.199	14.554	0.559	0.573
K	6.096	—	0.240	—
M	35.992	36.398	1.417	1.433



Svetlana
ELECTRON DEVICES

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5/97

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Typical Operation

Plate voltage	*4500*	*V*
Pulse plate current	*5*	*A*
Grid voltage	*-50*	*V*
Pulse positve grid voltage	*70*	*V*
Pulse grid current	*0.20*	*A*
Pulse duration	*10*	µsec
Duty	*0.005*	
Pulse drivng power	*25*	*W*
Pulse output power	*20*	*kW*
Pulse output voltage	*4*	*kV*

Pulsed RF Amplifier, Cathode Driven, Class AB2 - Drive

Pulsed Maximum Ratings (to 500 MHz)

DC plate voltage	*3500*	*V*
Plate current (average)	*0.6*	*A*
Peak plate current (average during pulse)	*2.5*	*A*
Plate dissipation (average)	*800*	*W*
Grid current (average)	*0.06*	*A*
Grid dissipation (average)	*4.0*	*W*

Typical Operation

DC plate voltage	*3500*	*V*
DC cathode voltage	*+15*	*V*
Zero signal plate current	*20*	*mA*
Pulse plate current	*2.5*	*A*
Pulse grid current	*105*	*mA*
RF cathode voltage	*130***	*V*
Cathode input impedance	*30*	*ohms*
Power output	*6.0*	*kW*
Duty	*0.01*	
RF driving power	*320***	*W*
Resonant load impedance	*660*	*Ohms*

***Peak*

Cooling Air at 25˚C

Anode* Dissipation Watts	Sea Level Air Flow CFM	Sea Level Pressure Drop Inches of Water	5,000 Feet Air Flow CFM	5,000 Feet Pressure Drop Inches of Water
400	6	0.09	7	0.10
600	11	0.20	14	0.23
800	19	0.50	23	0.57

Note: When cooling air inlet temperature is raised to 50˚C, flow rate must be increased approximately 40%.

